CHRONIC BRONCHITIS RISK IN COKE OVEN WORKERS: INFLUENCE OF INHERITED FACTORS. C. Mittman, H. A. Lewis* and J. Lieberman**, Respiratory Disease Department, City of Hope Medical Center, Duarte, and Kaiser Steel Company, Fontana, California.

To assess the role of inherited factors in the development of chronic bronchitis, a survey was conducted among 309 coke oven workers. Each man responded to a standardized questionnaire; serum samples were analyzed for Pi phenotype. Approximately 16% of men had symptoms of chronic bronchitis. Symptoms were more common in older men and those who smoked most, but the frequency of bronchitis in the overall group bore no relationship to the duration or type of work exposure. Pulmonary function studies were performed on 14 men with abnormal Pi phenotypes (7MZ, 7MS) and 15 men with a PiMM type but a family history of emphysema or bronchitis (the experimental group). Findings were compared with 29 control subjects matched by age, work and cigarette exposure history and ethnic background. Chronic bronchitis was present in 14 of the 29 experimental subjects (48%), but in only 6 (21%) of the controls (difference significant, $p < .05$, Chi square). Airways obstruction was present in 5 bronchitics (34%) in the experimental group, but in only 1 of the control bronchitics (17%). In the experimental group bronchitis was more common in those who had worked in the oven area over ten years (9 of 13 men) when compared with men with ten or less exposure years (5 of 16 men). These findings suggest that this job exposure is a hazard for men with an abnormal Pi phenotype or a family history of bronchitis or emphysema. Since these factors can be determined at the time of employment and job placement, such cases of lung disease may be preventable.

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